



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/765,226

01/18/2001

Baining Liu

101215-55

7377

27387

7590

03/14/2005

NORRIS, MCLAUGHLIN & MARCUS, P.A.

875 THIRD AVE

18TH FLOOR

NEW YORK, NY 10022

EXAMINER

NGUYEN, TUAN N

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 03/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 09/765,226	Applicant(s) LIU ET AL.	
	Examiner Tuan N. Nguyen	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4,6,7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,4,6,7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In responds to applicant's amendment filed 02/02/2005, claims 3, 4 have been amended. Claims 1,2, 5, 8, 12, and 13 are canceled. Claims 3,4,6, 7, 9,10,11 are pending.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102/103 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 3, 4, 9, 11 are rejected under 35 U.S.C. 102(a)/103 as being anticipated by Gries et al. (US 6633595) or Zanger et al. (US 6317449), or Pelouch et al. (US 5383198).

With respect to claims 3, 4 Gries '595 discloses and shows in figure 1 " A frequency-converter laser apparatus comprising an optical pumping source for producing optical pumping radiation; a unidirectional ring cavity comprising a frequency conversion crystal, a prism and mirror arrangement, wherein the frequency conversion crystal is positioned such that the radiation produced by the optical pumping source enters in a direction such that the crystal is passed by radiation only in one selected beam path direction. (Fig 1: Prism, mirror 1 & 2, and optically nonlinear crystal). Pelouch et al. '198 also shows a unidirectional ring cavity comprising a Brewster-angle crystal, prism, and mirrors arrangement, such that the radiation produced by the optical pumping source enters in a predetermined direction (Fig 1: 18-30). Zanger et al. ' 449 also shows a similar structural (Fig 4). Since claim 3 recites the same or

Art Unit: 2828

identical limitations it is inherent to use patents ('595), or '198, or ('449) to recite the method of producing frequency-converted laser radiation, product by process.

With respect to claims 9 and 11, Gries '595 disclosed the crystal made from BBO (ABSTRACT; Col 1: 60-61), and the prism connected to a piezoelectric element (Col 2: 15-20).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
5. Claims 6,7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gries et al. (US 6633595) or Zanger et al. (US 6317449), or Pelouch et al. (US 5383198).

With respect to claims 6, 7, 10 Gries '595 or Zanger et al. '449 discloses the above, and further shows the coupling optic disposed between pump source and ring cavity. The claims further require a stage amplifier and an external resonant cavity, which is disclosed by Zanger et

al. '449 (ABSTRACT). Even though Gries '595 did not explicitly disclosed a stage amplifier, however the ABSTRACT disclosed the "arrangement for resonant frequency doubling..." suggest the stage amplifier is inherently built in, and the ring cavity is an external resonant cavity, it is within one skill in the art.

Conclusion

6. The prior art made of record and relied upon is considered pertinent to applicant's discloses.

Stappaerts (US 5341236).

7. Applicant amendment claims filed 02/02/2005 has been considered but found not persuasive. Accordingly, **THIS ACTION IS MADE FINAL**. There is no remark from applicant related to previous office action, therefore no respond is included. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

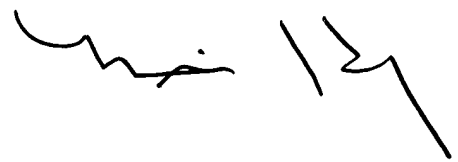
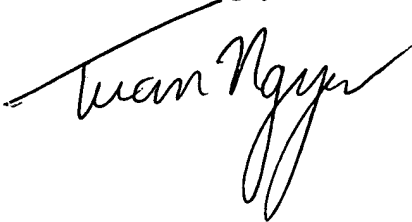
Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1948. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen



RECEIVED
FEB 12 2010